



0366 #6

## IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicants: Samy Ashkar

Serial No.: 10/091,724

Art Unit: Not Yet Assigned

Filed: March 6, 2002

Examiner: Not Yet Assigned

For: *METHODS TO SCREEN PEPTIDE LIBRARIES USING MINICELL DISPLAY*Assistant Commissioner for Patents  
Washington, D.C. 20231

## INFORMATION DISCLOSURE STATEMENT

Sir:

Pursuant to 37 C.F.R. §1.56 and 37 C.F.R. §1.97, Applicant submits an Information Disclosure Statement, including four (4) pages of Form PTO-1449 and a copy of each document cited therein.

This Information Disclosure Statement is being filed under 37 C.F.R. § 1.97(b) prior to a first Office Action on the merits. It is believed that no fee is required with this submission. However, should a fee be required, the Commissioner is hereby authorized to charge any required fees to Deposit Account No. 50-1868.

## U.S. Patents

<u>Number</u>	<u>Issue Date</u>	<u>Patentee</u>	<u>Class/Subclass</u>
5,516,637	05-14-1996	Huang et al.	435/6
5,587,471	12-24-1996	Cook et al.	536/25.3
5,571,698	11-05-1996	Ladner et al.	435/69.7
5,846,765	12-08-1998	Mathews et al.	435/69.1
6,031,071	02-29-2000	Mandeville et al.	530/300
6,054,312	04-25-2000	Larocca et al.	435/320.1
6,057,098	05-02-2000	Buechler et al.	435/6

### Foreign Documents

<u>Number</u>	<u>Publication Date</u>	<u>Patentee</u>	<u>Country</u>
0 527 839 B1	12-02-1998	Affymax Technologies	EP
0 585 287 B1	10-13-1999	Cambridge Antibody Technology Limited	EP
0 765 478 B1	08-05-1998	Baxter International Inc.	EP
0 916 726 A1	05-19-1999	Rijksuniversiteit te Groningen	EP
WO 98/37186	08-27-1998	Actinova Limited	PCT
WO 98/54312	12-03-1998	Babraham Institute	PCT
WO 99/20749	04-29-1999	Medical Research Council	PCT
WO 97/08553	03-06-1997	Regents of the University Of California	PCT

### Publications

BROWN et al., "A novel approach for the identification of unique tumor vasculature binding peptides using an E. coli peptide display library," *Ann. Surg. Oncol.*, 7(10):743-749 (2000).

CWIRLA, et al., "Peptides on phage: a vast library of peptides for identifying ligands," *Proc. Natl. Acad. Sci. USA*, 87(16): 6378-6382 (1990).

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DEVLIN, et al., "Random peptide libraries: a source of specific protein binding molecules," *Science*, 249: 404-406 (1990).

"FlitRx Random Peptide Display Library for the specific identification of protein-protein interactions," Catalog no. K1125-01 by Invitrogen Corporation: Carlsbad, CA.

KLEMM, et al., "Fimbriae-assisted bacterial surface display of heterologous peptides," *Int. J. Med. Microbiol.* 290: 215-221 (2000).

LIU, et al., "Progress toward the evolution of an organism with an expanded genetic code," *Proc. Natl. Acad. Sci. USA*, 96(9):4780-4785 (1999).

LU, et al., "Displaying Libraries of Conformationally Constrained Peptides on the Surface of *Escherichia coli* as Flagellin Fusions," *Methods in Molecular Biology* 87: 265-280 (1998).

LU et al., "Expression of thioredoxin random peptide libraries on the *Escherichia coli* cell surface as functional fusions to flagellin: a system designed for exploring protein-protein interactions," *BioTechnology*, 13(4):366-372 (1995).

MAGLIERY, et al., "Expanding the genetic code: selection of efficient suppressors of four-base codons and identification of "shifty" four-base codons with a library approach in *Escherichia coli*," *J. Mol. Biol.*, 307(3): 755-769 (2001).

"Immobilized Enzymes," Methods in Enzymology Volume 44 (Mosbach, ed.), Academic Press: New York, (1976).

MURPHY, et al., "Surface topology of the *Escherichia coli* K-12 ferric enterobactin receptor," *J. Bacteriol.*, 172(5):2736-2746 (1990).

"Production, Properties, and Utility of Bacterial Minicells," Current Topics in Microbiology and Immunology Volume 69 (Arber, et al., eds.), New York, 1975.

SCOTT, et al., "Searching for peptide ligands with an epitope library," *Science*, 249(4967): 386-390 (1990).

WANG, et al., "Expanding the genetic code of *Escherichia coli*," *Science*, 292(5516):498-500 (2001).

Westerlund-Wikstrom, "Peptide display on bacterial flagella: Principles and applications," *Int. J. Med. Microbiol.* 290: 223-230 (2000).

U.S.S.N.: 10/091,724  
Filed: March 6, 2002  
INFORMATION DISCLOSURE STATEMENT

### Remarks

This statement should not be interpreted as a representation that an exhaustive search has been conducted or that no better art exists. Moreover, Applicant invites the Examiner to make an independent evaluation of the cited art to determine its relevance to the subject matter of the present application. Applicant is of the opinion that his claims patentably distinguish over the art referred to herein, either alone or in combination.

Respectfully submitted,



Patrea L. Pabst  
Reg. No. 31,284

Dated: August 2, 2002

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U.S. PATENT & TRADEMARK OFFICE  
File No. 10/091,724  
March 6, 2002  
INFORMATION DISCLOSURE STATEMENT

**Certificate of Mailing under 37 C.F.R. § 1.8(a)**

I hereby certify that this Information Disclosure Statement, along with any paper referred to as being attached or enclosed, is being deposited with the United States Postal Service on the date shown below with sufficient postage as first-class mail in an envelope addressed to the Assistant Commissioner for Patents, Washington, D.C. 20231.

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Sheet 1 of 4

Application Number	10/091,724
Filing Date	March 6, 2002
First Named Inventor	Samy Ashkar
Group Art Unit	
Examiner Name	
Attorney Docket Number	CMCC 820

[illegible]

Examiner Initials*	Cite No.	Foreign Patent Document			Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T
		Office*	Number*	Kind Code* (if known)				
		EP	0 527 839	B1	Affymax Technologies	12-02-1998		
		EP	0 585 287	B1	Cambridge Antibody Technology Limited	10-13-1999		
		EP	0 765 478	B1	Baxter International Inc.	08-05-1998		
		EP	0 516 726	A1	Rijksuniversiteit te Groningen	05-19-1999		
		WO	98/37186		Actinova Limited	08-27-1998		
		WO	98/54312		Babraham Institute	12-03-1998		

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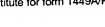
\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered.  
Include copy of this form with next communication to application.

<sup>1</sup> Unique citation designation number. <sup>2</sup> See attached Kinds of U.S. Patent Documents. <sup>3</sup> Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). <sup>4</sup> For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. <sup>5</sup> Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. <sup>6</sup> Applicant to place a check mark here if English language Translation is attached.

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FOREIGN PATENT DOCUMENTS							T <sup>8</sup>
Examiner Initials*	Cite No.	Foreign Patent Document			Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Office <sup>2</sup>	Number <sup>2</sup>	Kind Code <sup>2</sup> (if known)			
		WO	99/20749		Medical Research Council	04-29-1999	
		WO	97/08553		Regents of the University of California	03-06-1997	

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# INFORMATION DISCLOSURE STATEMENT BY APPLICANT

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Application Number	10/091,724
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Group Art Unit	
Examiner Name	
Attorney Docket Number	CMCC 820



3 of 4

## OTHER ART -- NON PATENT LITERATURE DOCUMENTS

Examiner's Initials*	Cite No.	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published	1*
		BROWN et al., "A novel approach for the identification of unique tumor vasculature binding peptides using an E. coli peptide display library," <i>Ann. Surg. Oncol.</i> , 7(10):743-749 (2000).	
		CWIRLA, et al., "Peptides on phage: a vast library of peptides for identifying ligands," <i>Proc. Natl. Acad. Sci. USA</i> , 87(16): 6378-6382 (1990).	
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First Named Inventor

Samy Ashkan
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Group Art Unit

Examiner Name

Attorney Docket Number

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Examiner's Initials\*

Cite  
No.<sup>1</sup>

Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published

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MAGLIERY, *et al.*, "Expanding the genetic code: selection of efficient suppressors of four-base codons and identification of tRNA<sup>sup</sup> four-base codons with a library approach in *Escherichia coli*." *J. Mol. Biol.*, 307(3): 755-769 (2001).

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